

Application No. 09/890,695
Filed: August 3, 2001
TC Art Unit: 1754
Confirmation No.: 6216

REMARKS

Claims 1-16 are pending in the present application. The pending claims have been rejected by the Examiner under 35 U.S.C. § 103. Amended herein is claim 1. This amendment is supported by the specification and claims as originally filed such that new matter has not been added. Accordingly, claims 1-16 will be pending on entry of this amendment.

Any amendments to the claims should not be construed as acquiescence to any of the rejections by the Examiner and was done solely to expedite the prosecution of the application. Applicants reserve the right to pursue the claims as originally filed in this or a separate application(s).

Applicants respectfully request reconsideration and withdrawal of the rejection by the Examiner in view of the above amendment and the remarks herein.

Claim Rejections 35 U.S.C. § 103

The Examiner has rejected claims 1-6, 9-13 and 15 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,409,125 to Nishino et al. in view of U.S. Patent Nos. 3,053,775 and 4,274,979 to Abbott and Simpson, respectively. Claims 7, 8, 14 and 16 have also been rejected under U.S.C. § 103 as being unpatentable over Nishino et al. in view of both Abbott and Simpson as well as Great Britain Patent No. 1,136,349 to Perkins. Applicants respectfully respond to the foregoing rejections through amendment and remarks herein.

It has been contended by the Examiner that Nishino et al. teach the temperature and heating rates of the claimed method. The Examiner, however, has maintained that the reference does not

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teach a *continuous* process in which a fabric is continuously passed through a carbonization furnace. In order to overcome this deficiency, the Examiner has asserted Nishino et al. in combination with Abbott. Abbott has been alleged to disclose a *continuous* passage of a fiber through a carbonization furnace that includes successive zones.

Although Abbott references a continuous process, Applicants respectfully submit that the furnace taught by the reference does *not* include successive carbonization zones or stages. Abbott specifically teaches "a tunnel furnace having a preheat section followed by an atmospheric trap, a carbonizing section and a cooling section." See column 2 at line 44. Based on this disclosure, Abbott teaches a furnace with an individual carbonizing section that does *not* include physically separate stages operating at different temperatures or heating rates. The reference also does *not* suggest a fabric entering or departing distinct carbonizing stages.

In contrast, the method of amended claim 1 requires subjecting a fiber fabric to a heat treatment by a carbonization chamber comprising (1) an *initial* chamber stage, (2) an *intermediate* chamber stage and (3) a *final* chamber stage. Additionally, claim 1 discloses that the fiber fabric *continuously* enters and departs each of the physically *separate* stages of carbonization. Claim 1 also requires that each chamber stage carbonizes at different ranges of temperature and heating rates. The claimed temperature ranges and heating rates are taught by the specification to be advantageous, for example, to control the shrinkage of the fabric. See page 5 at line 29.

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An obviousness argument generally requires that each element or limitation disclosed in the claimed invention be taught by an individual reference or a combination of references. In addition, the patent laws require that a reference suggest these elements or limitations as arranged within the pending claims. As amended, claim 1 discloses an initial, an intermediate and a final chamber stage for continuously carbonizing a fiber fabric. The references cited by the Examiner, however, do not teach distinct stages of carbonization such that a fabric enters and departs each of the stages during a continuous process. The cited references also do not disclose these separate stages as arranged in claim 1. Thus, Applicants respectfully contend that the patent laws would be contravened by asserting Nishino et al. in combination with Abbott to render the claimed method obvious.

Based on the amendment to claim 1 and the above remarks, the claimed method cannot be rendered obvious by combining Nishino et al. with Abbott. Applicants also respectfully submit that the deficiencies in these references are not overcome in view of the teachings by Simpson or Perkins. Accordingly, it is requested that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 103 as the claimed method is not rendered obvious by the cited references either individually or in combination.

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CONCLUSION

In view of the foregoing, reconsideration and withdrawal of all the rejections and allowance of the application with all pending claims are respectfully requested.

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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